

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

Claim 1 (original): A reaction mass apparatus comprising:

a baseframe;

at least one reaction mass, movably coupled to said baseframe by at least three first bearings, and coupled to a stage by at least two second bearings and at least one drive; and

a plurality of bellows, each of said plurality of bellows surrounding a corresponding one of said at least three first bearings, wherein each of said plurality of bellows has a first end coupled to said at least one reaction mass.

Claim 2 (original): The apparatus of claim 1, wherein each of said plurality of bellows has a second end coupled to said baseframe.

Claim 3 (original): The apparatus of claim 1, wherein said at least three first bearings are fluid bearings.

Claim 4 (original): The apparatus of claim 3, wherein said fluid is a pressurized gas.

Claim 5 (original): The apparatus of claim 3, wherein said fluid is a liquid film.

Claim 6 (original): The apparatus of claim 1, wherein said at least three first bearings are roller bearings.

Claim 7 (original): The apparatus of claim 1, wherein said at least three first bearings are ball bearings.

Claim 8 (original): The apparatus of claim 1, wherein said at least one drive each comprises:

a linear motor coil coupled to said stage; and

a magnet array coupled to one of said at least one reaction mass,

wherein said linear motor coil and said magnet array are coupled magnetically.

Claim 9 (original): The apparatus of claim 1, further comprising:

an enclosure having a controlled environment and enclosing said stage, said at least two second bearings, said at least one drive, and said at least one reaction mass,

wherein each of said plurality of bellows separates said corresponding first bearing from said controlled environment.

Claim 10 (original): The apparatus of claim 9, wherein each of said plurality of bellows has a second end coupled to said enclosure.

Claim 11 (original): The apparatus of claim 9, wherein a volume enclosed by each of said plurality of bellows has a pressure independent of the volume enclosed by said enclosure.

Claim 12 (original): The apparatus of claim 9, wherein a flange couples said bellows first end to one of said at least one reaction mass.

Claim 13 (original): The apparatus of claim 12, wherein said flange comprises a sliding surface for an enclosed first bearing.

Claim 14 (original): The apparatus of claim 9, wherein a flange couples said bellows second end to said enclosure.

Claim 15 (original): The apparatus of claim 9, wherein said baseframe is uncoupled from said enclosure.

Claim 16 (original): The apparatus of claim 9, wherein said baseframe is coupled to said enclosure via rigid supports.

Claim 17 (original): The apparatus of claim 9, wherein said baseframe is coupled to said enclosure via flexible supports.

Claim 18 (original): The apparatus of claim 9, wherein said enclosure further encloses lithographic exposure means.

Claim 19 (original): The apparatus of claim 1, wherein a flange couples said bellows first end to one of said at least one reaction mass.

Claim 20 (original): The apparatus of claim 1, wherein a flange couples said bellows second end to said baseframe.

Claim 21 (original): The apparatus of claim 1, wherein at least one of said first bearings is positioned such that it linearly guides one of said at least one reaction mass.

Claim 22 (currently amended): The apparatus of claim 1, wherein the mass of said stage is X times less than the mass of said at least one reaction mass, resulting in said at least one reaction mass moving, upon movement of said stage, a distance $1/X$ the distance of ~~the~~ said stage.

Claim 23 (original): The apparatus of claim 1, wherein said at least one reaction mass is made of metal.

Claim 24 (original): The apparatus of claim 1, wherein each of said plurality of bellows is made of metal.

Claim 25 (original): A scanning apparatus used for lithographic processing within a controlled environment, comprising:

lithographic exposure means;

a baseframe;

at least one reaction mass movably coupled to said baseframe by at least three first bearings;

a stage, coupled to said at least one reaction mass by at least two second bearings and at least one drive;

an enclosure, having a controlled environment and enclosing said lithographic exposure means, said stage, said at least two second bearings, said at least one drive, and said at least one reaction mass; and

a plurality of bellows, each of said plurality of bellows surrounding a corresponding one of said at least three first bearings and separating said corresponding first bearing from said controlled environment, wherein each of said plurality of bellows has a first end coupled to said at least one reaction mass and a second end coupled to said enclosure.

Claim 26 (original): The scanning apparatus of claim 25, wherein said at least three first bearings are fluid bearings.

Claim 27 (original): The scanning apparatus of claim 26, wherein said fluid is a pressurized gas.

Claim 28 (original): The scanning apparatus of claim 26, wherein said fluid is a liquid film.

Claim 29 (original): The scanning apparatus of claim 25, wherein said at least three first bearings are roller bearings.

Claim 30 (original): The scanning apparatus of claim 25, wherein said at least three first bearings are ball bearings.

Claim 31 (original): The scanning apparatus of claim 25, wherein said at least one drive each comprises:

a linear motor coil coupled to said stage; and

a magnet array coupled to one of said at least one reaction mass,

wherein said linear motor coil and said magnet array are coupled magnetically.

Claim 32 (original): The scanning apparatus of claim 25, wherein a volume enclosed by each of said plurality of bellows has a pressure independent of the volume enclosed by said enclosure.

Claim 33 (original): The scanning apparatus of claim 25, wherein a flange couples said bellows first end to one of said at least one reaction mass.

Claim 34 (original): The scanning apparatus of claim 25, wherein a flange couples said bellows second end to said enclosure.

Claim 35 (original): The scanning apparatus of claim 25, wherein said baseframe is uncoupled from said enclosure.

Claim 36 (original): The scanning apparatus of claim 25, wherein said baseframe is coupled to said enclosure via rigid supports.

Claim 37 (original): The scanning apparatus of claim 25, wherein said baseframe is coupled to said enclosure via flexible supports.

Claim 38 (original): The scanning apparatus of claim 25, wherein at least one of said first bearings is positioned such that it linearly guides one of said at least one reaction mass.

Claim 39 (currently amended): The scanning apparatus of claim 25, wherein the mass of said stage is X times less than the mass of said at least one reaction mass, resulting in said at least one reaction mass moving, upon movement of said stage, a distance $1/X$ the distance of ~~the~~ said stage.

Claim 40 (original): The scanning apparatus of claim 25, wherein said at least one reaction mass is made of metal.

Claim 41 (original): The scanning apparatus of claim 25, wherein each of said plurality of bellows is made of metal.